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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/709,095	11/10/2000	William R. Belknap	ST9-99-180	2856

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EXAMINER

BOCCIO, VINCENT F

ART UNIT	PAPER NUMBER
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2165

MAIL DATE	DELIVERY MODE
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07/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/709,095	Applicant(s) BELKNAP, WILLIAM R.	
	Examiner Vincent F. Boccio	Art Unit 2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE, Amend. & Response of 6/21/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-18,21-33 and 36-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-18,21-33 and 36-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 2165.

Response to Arguments

Applicant's arguments with respect to the amendment of 6/21/2007, amending the scope of all the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

2. Claim 1-3, 6-14 and 16-18, 21-29, 31-33 and 36-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aotake (US 6,411,771) in view of Morimoto et al. (US 6,005,643) and Takahashi et al. (US 5,537,528).

Regarding claims 1, 2-3, 6-7, Aotake discloses and meets the limitations associated with a computer for processing a

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video stream received, the apparatus and associated method comprising the steps of:

- receiving a video stream, wherein the video stream comprises multiple frames (Fig. 6 a, col. 20);
- analyzing the video stream to ID scene changes between frames and an encoder (col. 20, "evaluation of a picture subjected to encoding by referencing the frame memory unit 110", "amount of information" or "amount of code as a result of encoding");
- marking with respect to the field or frames of the video stream (col. 4) and wherein the encoder is a compression encoder which compresses a stream into a file on the computer, claim 10.

Regarding claims 1, 3, 7, Aotake, creates an index for the purpose of extracting and displaying or to provide an index of access points for displaying specific scenes or segments Figs. 15, 21 etc....., to identify scenes change point within a video stream,

- but, fails to disclose marking fields of frames of a video and therefore, fails to clearly disclose updating at least a data bit in a field of a video frame, to indicate a scene change and wherein the **user or private fields are stored separately from the encoded content with in the frames.**

Morimoto, discloses teachings in the art, see,

"Background of the Invention", at col. 1, LINES 44-54,

"MPEG is well known ... **some additional information is put into an MPEG video bit-stream**, a method of **hiding additional information** into a **user data field**. Therefore updating at least one bit, of a video frame (I, P, B types frames of an MPEG Video stream), area/field being a USER DATA field/area, has generally been employed for storing additional information. Which meets the limitation of as claimed, user or private data field/fields, to store additional information, of an MPEG compressed video stream of frames (I, P and B type frames).

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The user data fields/areas, are within the frames, but, separate from the content (video), being an MPEG layer fields/areas, intended for holding/storing/carrying additional information, allowing for easy removal (col. 1, lines 50-52).

Morimoto describes that this type of embedding may be easily separated from the media, which to Morimoto is a problem that the detection and removal are easy and his invention, improves embedding to alleviate this issue (see below).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify Aotake by incorporating marking fields/areas of an MPEG stream at the encoder, meeting the limitation of user or private type data fields of a frame thereby updating the stream with at least one marker bit, being a location to store additional data which is separate from the encoded content with the frames, as taught by Morimoto, as described in the background, which using these areas, user data areas causes no degradation or to be in a manner transparent, when rendering video, as is obvious to those skilled in the art, which is deemed an obvious alternative to a separate index file, with respect to the video, to mark in user/private field of a video frame, to indicate scene changes, to later thereby, detect and render, for the purpose of identification of scene change point in an editing system for intended editing purposes, as taught by Aotake in view of the teachings of Morimoto.

Regarding claims 1, 7-8, 9, 16, 22, 23, 24, 31, 37, 38 and 39, as currently amended, the combination as applied fails to address the marking further including, "A TYPE of scene change" or an attribute indicating type of scene change.

Takahashi teaches detection of scene changes, having more than one TYPE or at least two, attribute information marking scene change points, including a type field 904 in Fig. 9, col. 9-10, scene change types represented by NORMAL and DISSOLVE types, represented in the table as, 1 and 2, defining the scene change type, as taught by Takahashi.

Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify the combination by adding additional bits defining scene change types when detected by different scene change detections by different detectors as

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taught by the prior art and Takahashi having advantages of defining by type scene changes allowing for a more details associated with scene change types, allowing for attribute consideration in the selection and editing, thereby by providing a higher level attribute information, enabling higher or more detailed levels of, image selection and editing operations possible, as is obvious to those skilled in the art.

Further regarding claims 8-9, as previously applied, claims 8 is addresses with respect to above, wherein the dissolve of a transition for cuts between scenes and meets the limitation of a cut detection/detector, further Aotake discloses indicating an attribute representing the amount a scene has changed in relation to the corresponding scene change point indexed, as taught by Aotake.

It would have been obvious since Aotake generates the additional data for scene changes, wherein Morimoto teaches embedding various additional information being different messages, as suggested by Morimoto, therefore, it would have been obvious to those skilled in the art at the time of the invention to utilize and embed additional data bits, as suggested by the combination of Morimoto and Aotake, to embed the generated data of Aotake in a field, as taught Morimoto representing additional bits generated by Aotake and/or to embed at least some additional data in to the field or more than one bit data, as is obvious to those skilled in the art with these references in front of themselves.

Further with respect to claim 8, the examiner has cited in the PTO-892, prior art, scene change detectors that detect camera motion attributes associated with scene changes, such as Tilt up/down, Zoom In/out, Dolly {Forward & Back}, Track left/right, Pan Left/Right even Roll, scene changes detected which are camera attributes.

Regarding claims 11-12, Aotake disclose and meets the limitation of wherein a frame of the video file representing a scene change comprises a full frame, Figs. 21 & 24 rendered of or displayed full frames and a DELTA being a frame with large changes, represented by a high threshold, see Aotake (Fig. 19).

Claim 13 is analyzed and discussed with respect to claim 9, further rendering obvious to scan the fields having amount of

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scene change attribute added thereto and to provide an extraction tool to select frame exceeding an amount of scene change (Aotake, cols. 45-46 and Fig. 19, "exceeding a predetermined threshold value be displayed on the source window 362. The threshold value is entered by the user"), as is deemed obvious to those skilled in the art.

Regarding claim 14, disclose at col. 10, that either the encoder and decoders can be either software or hardware, but, the combination fails particularly mention wherein the extraction tool access the scene change data in the fields in real time.

Aotake discloses that hardware can be used (col. 10), wherein the examiner takes official notice that, hardware is obviously capable of processing at higher levels, than software, such as real time video processing, therefore, it would have been obvious to those skilled in the art, to playback at in real time or the normal playback speed with respect to the video standard and detect additional field data in real time, as is obvious to those skilled in the art.

Claims 16-18, 21-29 and 31-33 and 36-44 have been analyzed and discussed with respect to the claims above, but, claims 31-44 represent an article of manufacture, deemed met by the combination with Aotake col. 49, having a program to let a computer process, therefore an article of manufacture or a computer program to facilitate the method with a computer being the hardware.

3. Claims 15, 30 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Aotake (US 6,411,771), Morimoto et al. (US 6,005,643) and Takahashi et al. (5,537,528), as applied and further in view of Tonomura et al. (US 6,571,054).

Regarding claims 15, 30 and 45, the combination as applied fails to disclose generating a storybook with the extracted frames.

Tonomura teaches at col. 3, "automatically creates a book like electronic book by a procedure of analyzing a video sequence to detect various events such as a scene change" and col. 10, lines 58-, "Items that can be placed in page are every kind of data that can be managed by a computer, such as text, images, representing images linked to a video and sound data. All the

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items that are carried on the electronic image book are items numbers for identification ... ", as taught by Tonomura.

Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify the combination by utilizing the scene change frames and creating automatically creating an electronic image book, wherein the book can have text, therefore, a story book with extracted scene change images, as taught by Tonomura.

Contact Information

Any inquiry concerning this communication or earlier communications should be directed to the examiner of record Vincent F. Boccio whose telephone number is (571) 272-7373.

The examiner can normally be reached on between Monday thru Friday between (7:30 am to 5:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on (571) 272-4146.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Primary Examiner, Boccio, Vincent
7/21/07


VINCENT BOCCIO
PRIMARY EXAMINER